AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 2, line 20 with the following amended paragraph:

The invention provides a system for controlling a design process having a first design sub-process and a second design sub-process, outcomes of one of the first and second design sub-processes being linked to outcomes of the other of the first and second design sub-processes and vice versa by a relationship between one or more first design sub-process variables (A) and one or more second design sub-process variables (B) ~~of the second design sub-process~~, the system comprising:

Please replace the paragraph beginning on page 4, line 36 with the following amended paragraph:

The invention also provides a method for controlling a design process having a first design sub-process and a second design sub-process, outcomes of one of the first and second design sub-processes being linked to outcomes of the other of the first and second design sub-processes and vice versa by a relationship between one or more first design sub-process variables (A) and one or more second design sub-process variables (B) ~~of the second design sub-process~~, the method comprising:

Please replace the paragraph beginning on page 5, line 8 with the following amended paragraph:

providing a user configurable interface between said first and second design sub-processes, and configuring said user configurable interface to control said design process by specifying which of said one or more variables (A,B) are active variables which can have their domains modified by at least one internal process within the sub-process to which the variable belongs and which of said one or more variables (A,B) are passive variables which have their domains determined within allowable values by the domains of the other variable or variables in said relationship,

On page 5, after line 31, please insert:

Figure 3 shows details of the interface configuration module 50 shown in Figure 1.

Figure 4 is a flowchart for the Example 1 methodology.

Please replace the paragraph beginning on page 6, line 26 with the following amended paragraph:

Accordingly, embodiments of the present invention provide a system for controlling a design process which includes a user configurable interface between design sub-processes which allows a user to control the influence individual design sub-processes have on the outcome of the overall design process (see box 410 in Figure 4). The embodiments of the system also allow the design processes to be more flexible than existing design processes and to control collaboration of different design processes.

Please replace the paragraph beginning on page 8, line 26 with the following amended paragraph:

In the preferred embodiment, a configuration module is used to configure the interface (see box 420 in Figure 4). The configuration module allows a project manager to specify the goals of the design process. The system then uses embedded logic to determine from the goals which sub-processes and which variables will form part of the interface between sub-processes as well as which rules and algorithms are used to specify the relationships between the variables of the first design sub-process and the variables of the second design sub-process. In this way, the user configurable interface is able to embody user experience. However, the system also allows a user to individual tailor the interface. That is, the project manager may either specify the interface from scratch or may modify the interface which is provided by the system in response to the project manager defining their goals.

Please replace the paragraph beginning on page 9, line 12 with the following amended paragraph:

Variables can be assigned different characteristics which determine the manner in which relationships between variables are evaluated and the dominance of a sub-process in the overall design process. Variables can be assigned either an "active" or "passive" nature (see box 422 in Figure 4).

Please replace the paragraph beginning at page 9, line 19 with the following amended paragraph:

The domain (i.e. the set of possible values) of a "passive" variable will be predominantly determined by other variables, and rules and algorithms. That is, a passive variable becomes a dependant variable in a relationship with other variables. The relationship is typically specified by one or more algorithms and/or one or more rules (see box 424 in Figure 4). Accordingly, the sub-process to which the variable belongs will respond to changes made to the variable through its relationship with other variables but will not be able to modify its values. However, the sub-process will be able to constrain the domain of the variable so that it does not take unworkable values--i.e. so that it takes allowable values (see box 426 in Figure 4).

Please replace the paragraph beginning on page 10, line 7 with the following amended paragraph:

Typically, a "hard" constraint will be applied by the sub-process. A hard constraint in effect indicates that the sub-process is incapable of providing solutions which lead to that variable taking a value outside a particular range so that if a relationship with another variable calls for the variable to change, there is a mechanism for preventing it from taking an unacceptable value. A "soft" constraint, on the other hand, could be applied by either the sub-process or the user interface. Therefore, the project manager may apply a soft constraint to indicate the constraint is not significant in the overall scheme of things. For example, a project manager may place a soft constraint on the area or volume efficiency of a packing arrangement or material performance to cost ratio. The latter are typical examples of constraints where there is not a strong degree of certainty in their choice and hence there may not be a good reason to adhere to the constraint. In addition in some cases they may not have much of an overall affect on an optimisation objective function (e.g. cost), and hence should not be a strong determinant of

the solution space (i.e. the possible outcomes), whereas a hard constraint generally has a strong physical limit. During optimization (see box 430 in Figure 4), if the current solutions do not meet a specified criteria, the optimisation engine may modify the domain of a variable having a soft constraint to search for better solutions. Thus, soft constraints can prevent excellent solutions being dismissed for spurious reasons--for example because an inappropriate and unrealistic or uncertain choice of efficiency level which may not in fact have a great deal of influence on the cost effectiveness of the solution. The system can be configured so that the type of constraint defaults to soft for some types of variables.

Please replace the paragraph beginning on page 12, line 11 with the following amended paragraph:

In order to facilitate understanding of the invention, an example of an embodiment involving two sub-processes will be described where the first sub-process (SP1) is a carton and the second sub-process (SP2) is a corrugated box. FIG. 1 provides a schematic representation of the components in the system, eg variables, algorithms and rules. FIG. 1 shows the connection between variables, algorithms, and rules and the passive and active interface variables. In this example all algorithms and rules may modify or examine an interface variable. Accordingly, in FIG. 1, all lines are shown passing through a central hub 70 to indicate that all rules/algorithms may communicate with all variables. The directed lines (i.e. lines with arrows, e.g. line 40) show where a sub-process algorithm or rule may change an active variable. As shown within the second sub-process SP2 [[2]] where a passive variable cannot be changed by the algorithms and rules of the sub-process, non-directed lines (i.e. lines without arrows, e.g. line 41) show communication/interaction between components. There will also be cases where a rules component does not interact with the interface variables directly but does so via an algorithm.

On page 12, after line 33, insert the following paragraph:

Box 50 indicates the user interface configuration module which is used by the project manager to configure the design process as indicated by arrows 54. Interface configuration module 50 provides goal specification 50C (including search heuristics and goals 50A and optimisation heuristics and goals 50B); active/passive variable specification 50D; constraint

placement and definition 50E; and relationship/rule selection and specification 50F. Optimisation engine 61 optimises the design process.

Please replace the paragraph beginning on page 14, line 5 with the following amended paragraph:

An algorithm and a rule for strength/performance interaction IA-1 & IR-1, and an algorithm, IA-2 and rule <u>IR-2</u> [[IR-1]] for constraints management.

Please replace the paragraph beginning on page 22, line 15 with the following amended paragraph:

As shown by <u>the first</u> design sub-process <u>SP1</u> [[1]], a design sub-process may incorporate a number of different algorithms which interact with the variable set under the control or management of a rules engine R1-1. The set of variables 56 are all active and hence tend to drive the overall design process. However, the algorithms A1-1 and A1-2 also interact with other passive variables related by filling line 57 and manufacturing site 58 which cannot be altered by A1-1 or A1-2.

Please replace the Abstract with the amended Abstract on a separate sheet included in the Appendix hereto.